POLAND

Annual report on Poland's efforts to achieve a sustainable balance between fishing capacity and fishing opportunities

for the period 1 January to 31 December 2019

Introduction

Pursuant to Article 22(2) of Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC ('Regulation (EU) No 1380/2013'), EU Member States are required to send to the European Commission, by 31 May each year, a report on the balance between the fishing capacity of their fleets and their fishing opportunities.

I. SUMMARY OF REPORT

As at 31 December 2019, the Polish fishing fleet consisted of 827 fishing vessels (including vessels fishing in the Vistula Lagoon and Szczecin Lagoon). The total fishing capacity of those vessels was 32,327.84 GT and 80,220.10 kW. In general terms, Polish fishing can be broken down into two basic sectors: Baltic Sea fishing (in which the lion's share of the fleet is involved) and deep-sea fishing.

The main fish species caught by Polish fishermen in the Baltic Sea are: cod, sprat, herring, salmon, sea trout and flatfish. The main species caught by Polish deep-sea vessels are: horse mackerel, cod, blue whiting, mackerel and herring.

Since its accession to the European Union, Poland has strictly complied with the entry/exit scheme for fishing vessels as currently provided for in Article 23(1) of Regulation (EU) No 1380/2013.

II. Opinion on the balance between fleet capacity and resources

Given the status of marine biological resources and the fishing opportunities available to Poland in the Baltic Sea, the existing fleet structure must be changed.

Between its accession to the European Union and the end of 2013, Poland reduced its fishing capacity by more than 40%.

As the findings of the annual reports for 2014, 2015, 2016, 2017 and 2018 showed that the fishing capacity of individual fleet segments was not in balance with available fishing opportunities, corrective action was taken to achieve such a balance. That action covered the relevant segments of the fishing fleet in the form of support for permanent cessation of fishing activity as referred to in Article 34 of Regulation (EU) No 508/2014 of the European Parliament and of the Council of 15 May 2014 on the European Maritime and Fisheries Fund and repealing Council Regulations (EC) No 2328/2003, (EC) No 861/2006, (EC) No 1198/2006 and (EC) No 791/2007 and Regulation (EU) No 1255/2011 of the European Parliament and of the Council

(OJ L 149, 20.5.2014, p. 1) – implemented under Measure 1.6 'Permanent cessation of fishing activity' from the 2014-20 'Fisheries and the Sea' Operational Programme (2014-20 FISH OP)'. Action also took the form of support for temporary cessation of fishing activity as referred to in Article 33 of Regulation (EU) No 508/2014 – implemented under Measure 1.10 'Temporary cessation of fishing activity (2014-20 FISH OP)'..

Pursuant to Article 34(4) of Regulation (EU) No 508/2014, **support for permanent cessation of fishing activity could be granted until 31 December 2017**. **In view of this, agreements for financing scrapping operations or operations for re-qualifying fishing vessels under Measure 1.6 'Permanent cessation of fishing activity' were concluded by the end of 2017.** No agreements for financing operations under Measure 1.6. 'Permanent cessation of fishing activity' were concluded after that time.

In implementing the financing agreements under Measure 1.6. 'Permanent cessation of fishing activity', **between 1 January 2016 and 6 March 2018, 46 commercial fishing vessels were permanently withdrawn from commercial fishing, representing a total fishing capacity of 1,069.65 GT and 3,299.00 kW:**

- between 1 January 2016 and 31 December 2016 **33** fishing vessels with a total fishing capacity of 865.24 GT and 2,643.20 kW were permanently withdrawn from commercial fishing, of which 29 vessels were permanently withdrawn through scrapping, two vessels were withdrawn without scrapping through reclassification for land-based non-profit-making activities related to cultural heritage, and two vessels were withdrawn without scrapping through reclassification for non-profit-making activities other than commercial fishing;

- between 1 January 2017 and 31 December 2017 **8** fishing vessels with a total fishing capacity of 166.78 GT and 505.00 kW were permanently withdrawn from commercial fishing, of which six vessels were permanently withdrawn through scrapping and two vessels were withdrawn without scrapping through reclassification for non-profit-making activities other than commercial fishing:

- between 1 January 2018 and 6 March 2018 **5** fishing vessels with a total fishing capacity of 37.63 GT and 150.80 kW were permanently withdrawn from commercial fishing, of which two vessels were permanently withdrawn through scrapping and three vessels were withdrawn without scrapping through reclassification for non-profit-making activities other than commercial fishing..

Measure 1.6. Permanent cessation of fishing activities under the 2014-20 FISH OP				
	2016	**2017**	**2018**	**2016 - 2018**
Fishing vessels permanently withdrawn through scrapping	29	6	2	**37**
Fishing vessels permanently withdrawn without scrapping through reclassification for land-based non-profit-making activities related to cultural heritage	2	0	0	**2**
Fishing vessels permanently withdrawn without scrapping through reclassification for non-profit-making activities other than commercial fishing	2	2	3	**7**
Total number of fishing vessels permanently withdrawn	**33**	**8**	**5**	**46**

Notwithstanding the above, given the negative, dynamic changes in the status of fish stocks in the Baltic Sea and continuing uncertainty in the scientific guidance from the

International Council for the Exploration of the Sea (ICES), in particular as regards Eastern Baltic cod – which is important to the Polish fishing sector – there is a temporary imbalance between fishing capacity and available fish stocks.

The latest assessments of the biological, technical and economic indicators relating to the Polish fishing fleet, which are presented in Chapter VIII, Section F: 'Estimation and discussion of balance indicators' and Chapter IX: 'Analysis and evaluation of the balance between fishing capacity and fishing opportunities by fleet segment for three consecutive years' of this report show that individual segments of the fishing fleet have still not adjusted effectively to available fishing opportunities.

Pursuant to Article 22(4) of Regulation (EU) No 1380/2013, an action plan has been prepared for the fleet segments with identified structural overcapacity. The action plan forms an integral part of this report and is included in Chapter X.

III. SECTION A

Description of the fishing fleet

In general terms, Polish fishing can be broken down into two basic sectors:

- **Baltic Sea fishing** (in which the lion's share of the fleet is involved);
- **deep-sea fishing**.

As at 31 December 2019, the Polish Baltic fishing fleet consisted of 825 fishing vessels. The total fishing capacity of those vessels was 15,924.84 GT and 62,820.10 kW. The fleet is made up of fishing vessels operating in the Baltic Sea and in internal maritime waters, including the Vistula Lagoon and the Szczecin Lagoon.

As at 31 December 2019, the Polish deep-sea fishing fleet consisted of 2 fishing vessels. The total fishing capacity of those vessels was 16,403.00 GT and 17,400.00 kW. The deep-sea fleet is made up of fishing vessels operating exclusively outside the Baltic Sea and Polish internal waters.

Types of fishing operations carried out

Baltic Sea fisheries

The main fish species caught by Polish fishermen in the Baltic Sea are: cod, sprat, herring, salmon, sea trout and flatfish. The Baltic Sea species important to Polish fishermen (in particular the coastal fleet) is cod which is subject to restrictions resulting, inter alia, from the recovery plan for these stocks (significant annual reductions in fishing quotas, biological recovery periods and restricted use of some fishing gear). Catches of pelagic fish (sprat and herring) make up a significant share of the income of Polish fishermen. Polish fishermen also fish for sea trout and flatfish, considered equally valuable in economic terms. Baltic Sea catches in 2019 as broken down by species: cod (sub-areas 22-32): 4,328.4 tonnes, salmon: 6,584 units, sprat: 74,492.2 tonnes, plaice: 778 tonnes, western herring (sub-areas 22-24): 996.4 tonnes, central herring (sub-areas 25-27, 28.2, 29 and 32): 38,530.2 tonnes, sea trout: 22,570 units and flounder: 16,711 tonnes.

Deep-sea fisheries

Deep-sea vessels operated mainly in areas managed by the North-East Atlantic Fisheries Commission (NEAFC) and in Norwegian waters. In 2019, Polish vessels also fished in the waters of the South Pacific Regional Fisheries Management Organisation (SPRFMO). The main species caught by Polish deep-sea vessels in NEAFC fisheries are: cod, blue whiting, mackerel and herring. The main species caught in South Pacific fisheries are: Chilean jack mackerel, mackerel and Ray's bream. The deep-sea quotas allocated to Poland have been fully utilised, either through catch or by exchanging quotas – primarily with Germany, the United Kingdom, Latvia, Estonia, Spain and Portugal. The Polish deep-sea fleet's growth prospects depend on its ability to obtain fishing opportunities in deep-sea fisheries. In 2019, deep-sea catches amounted to a total of approx. 48.4 thousand tonnes.

Changes in the fleet

Changes in the Polish fleet, as broken down into Baltic and deep-sea fleets, are presented in the table below.

	As at 31.12.2018			As at 31.12.2019			Change		
	GT	kW	Number of vessels	GT	kW	Number of vessels	GT	kW	Number of vessels
Total	**32,350.07**	**80,226.78**	**827**	**32,327.84**	**80,220.10**	**827**	**-22.23**	**-6.68**	**Unchanged**
Deep-sea fleet	16,403.00	17,400.00	2	16,403.00	17,400.00	2	Unchanged	Unchanged	Unchanged
Baltic fleet	15,947.07	62,826.78	825	15,947.84	62,826.10	825	-22.23	-6.68	Unchanged

The number of fishing vessels in the Baltic fleet was the same at the end of 2019 as at the end of 2018. However, the total fishing capacity of the fleet decreased slightly as a result of vessel upgrade works which involved rebuilding fishing vessels (increasing or decreasing gross tonnage), replacing the main engine, changing engine power (increasing or decreasing power), and replacing vessels. Vessels were upgraded or replaced by their owners by means of their own financial resources and using the individual fishing capacity available to them or additional capacity granted to them by the minister responsible for fisheries.

In 2019, four fishing vessels were upgraded using additional capacity granted to their owners (on the basis of Article 23(1) and (2) of the Sea Fisheries Act of 19 December 2014 (Journal of Laws 2018, item 514, as amended). As a result, the gross tonnage of those vessels increased by a total of 6.55 GT.

In the same year, three vessels were withdrawn from commercial fishing without state aid, two of which were replaced by two other fishing vessels which entered commercial fishing. One further vessel was also entered into use in 2019 to replace a fishing vessel withdrawn from commercial fishing without state aid in 2014.

In 2019, Measure 1.6 ‘Permanent cessation of fishing activity’ under the 2014-20 ‘Fisheries and the Sea’ Operational Programme, was not carried out.

The quantitative status and fishing capacity of deep-sea fleet fishing vessels did not change in comparison to 2018. As at 31 December 2019, the fleet comprised two fishing vessels with a total fishing capacity of 16,403.00 GT and 17,400.00 kW.

IV. SECTION B

Impact on fishing capacity of effort reduction schemes

In 2019, no action was taken to permanently withdraw vessels from commercial fishing under Measure 1.6 ‘Permanent cessation of fishing activity’ from the 2014-20 ‘Fisheries and the Sea’ Operational Programme.

V. SECTION C

Statement of compliance with the entry/exit scheme and with the fishing capacity ceiling

During the reporting period, Poland strictly complied with the entry/exit scheme as set out in Article 23(1) of Regulation (EU) No 1380/2013.

As at 31 December 2019, the fishing capacity of the Polish fleet included in the fleet register was 32,327.84 GT and 80,220.10 kW.

Pursuant to Article 22(7) of Regulation (EU) No 1380/2013, the fishing capacity of the Polish fleet, as specified in the fleet register, did not at any time exceed the fishing capacity ceiling set out for Poland in Annex II to that Regulation.

VI. SECTION D

Summary of weaknesses and strengths of the fleet management system
Plan for improvements in the fleet management system
Information on the level of compliance with fleet policy instruments

Poland has fully complied with the fleet capacity restrictions provided for in EU law on balancing entry and exit capacity. The fishing capacity of the Polish fleet, as specified in the fleet register, did not at any time exceed the fishing capacity ceiling laid down for Poland in Annex II to Regulation (EU) No 1380/2013..

A key feature of the existing management system of the Polish fishing fleet is that it incorporates a complex IT system. The IT system consists of a central database containing information necessary for the fisheries administration system to function properly and be used to monitor fishing activity. The system takes into account links between vessel registration procedures, procedures for granting fishing licences and permits, and catch registration and accounting procedures. It has a statistical mechanism which enables a comprehensive set of reports to be generated. In addition, the system has a module for entering electronic reports into the databases, which are submitted in accordance with Council Regulation (EC) No 1224/2009[1] and Commission Implementing Regulation (EU) No 404/2011[2]. The system was designed using the

[1]Council Regulation (EC) No 1224/2009 of 20 November 2009 establishing a Community control system for ensuring compliance with the rules of the common fisheries policy, amending Regulations (EC) No 847/96, (EC) No 2371/2002, (EC) No 811/2004, (EC) No 768/2005, (EC) No 2115/2005, (EC) No 2166/2005, (EC) No 388/2006, (EC) No 509/2007, (EC) No 676/2007, (EC) No 1098/2007, (EC) No 1300/2008, (EC) No 1342/2008 and repealing Regulations (EEC) No 2847/93, (EC) No 1627/94 and (EC) No 1966/2006 (OJ L 343, 22.12.2009, p. 1, as amended).
[2] Commission Implementing Regulation (EU) No 404/2011 of 8 April 2011 laying down detailed rules for the implementation of Council Regulation (EC) No 1224/2009 establishing a Community control system for ensuring compliance with the rules of the Common Fisheries Policy (OJ L 112, 30.4.2011, p. 1-153).

latest IT technology which, among other things, means it is able to operate more functionally, faster and can be accessed by all authorised users via the internet. A new 'infringements module' was added to the existing system in 2015 to allow users to record any infringements committed by Polish fishing vessels and document all stages of relevant administrative procedures.

Vtrack – a modern satellite fishing vessel monitoring system – became fully operational in 2009 and was functioning properly in 2019.

ERS-Vcatch, an electronic recording and reporting system allowing fishing and landing documents in accordance with Council Regulation (EC) No 1224/2009 and Commission Implementing Regulation (EU) No 404/2011 to be filed electronically, was deployed in January 2011. All Polish vessels over 12 metres in overall length have been equipped so that fishing activity and landing declarations/transshipment data can be registered and reported electronically. In 2019, all catch taken by those vessels was recorded using electronic logbooks.

The automatic SMS-based system for advance registration deployed in 2011 was functioning properly in 2019. Data transmitted from fishing vessels were automatically – in real time – recorded in a single database, which could be accessed by inspectors via the internet.

A balance between fishing capacity and available marine biological resources must be achieved in order to ensure effective fleet management. Adapting the size and structure of the fleet to the fishing opportunities available to Poland will therefore be crucial in the near future. The management rules for both areas which have so far been based on provisions resulting directly from EU law and the 2004 Act have been modified and enhanced in the new Sea Fisheries Act of 19 December 2014, in force since 4 March 2015.

Under those rules, the minister responsible for fisheries is empowered to manage fishing capacity with a view to making efficient use of the fishing capacity ceiling allocated to Poland (GT/kW), which, due to its progressively decreasing size, should be linked – whenever possible – to vessels actively involved in commercial fishing. The provisions indicate that:

- three fleet segments will be designated by area of operation (fleet segments comprising vessels used in commercial fishing in the Baltic Sea, Vistula Lagoon/Szczecin Lagoon and deep sea areas):
- the minister responsible for fisheries will establish how spare fishing capacity is managed, including through support measures for fleet modernisation;
- measures will be taken to prevent excessive fragmentation of fishing capacity due to 'duplication' (such as refusing to register more than one fishing vessel in the fleet register to replace a previously withdrawn vessel).

VII. SECTION E

Information on changes to fleet management administrative procedures

In 2019, legislative work was completed on the following: Regulation of the Minister for the Maritime Economy and Inland Waterways on conservation sizes and recovery periods for marine organisms and specific conditions applicable to commercial fishing; Regulation of the Minister for

the Maritime Economy and Inland Waterways amending the Regulation on the specific method for allocating overall and additional fishing quotas; Regulation of the Minister for the Maritime Economy and Inland Waterways establishing conversion factors for 2020 applicable to the quantity of marine organisms belonging to species for which individual fishing quotas are exchanged between vessel owners and laying down detailed conditions for the exchange of such quotas.

The Regulation on conservation sizes and recovery periods for marine organisms and specific conditions applicable to commercial fishing was issued in conjunction with the phasing out of non-consolidated administrative bodies, i.e. the District Sea Fisheries Inspectorates, and their replacement by a central government body, namely the Chief Maritime Fisheries Inspector. In addition to laying down conditions for commercial fishing in the Baltic Sea, the Regulation sets out for the very first time principles applicable to fishing in internal maritime waters. Rules on western and eastern internal waters had previously been laid down in local legislation by District Sea Fisheries Inspectorates.

The Regulation of the Minister for the Maritime Economy and Inland Waterways amending the Regulation on the specific method for allocating overall and additional fishing quotas was issued in reference to the far lower general fishing quotas set by the EU Council, which included Eastern cod only being permitted as by-catch. The Regulation included changes in the distribution coefficients for calculating individual fishing quotas for sprat and central herring. It was necessary for these coefficients to be changed in order to minimise the adverse effects of a reduction in fishing quotas for vessels of specific lengths in the context of a significant decrease in overall fishing quotas. The main purpose of the changes was to ensure that vessel owners could continue fishing following the ban on targeted Eastern cod fishing which would deny them additional economically-justified sea fishing possibilities.

The Regulation of the Minister for the Maritime Economy and Inland Waterways establishing conversion factors for 2020 applicable to the quantity of marine organisms belonging to species for which individual fishing quotas are exchanged between vessel owners and laying down detailed conditions for the exchange of such quotas, was issued in order to allow fishing quotas to be exchanged between vessel owners. When adopting the conversion factors laid down in the aforementioned Regulation, account was taken of Council Regulation (EU) 2019/1838 (OJ L 281, 31.10.2019, p. 1) which establishes the overall catch quotas for individual species of marine organisms subject to restrictions. Suggestions from the fishing community and the current market value of individual species of marine organisms were also taken into account when determining the conversion factors. In accordance with the detailed conditions on exchanging individual fishing quotas proposed in the Regulation, any such exchange is subject to a minimum quantity of marine organisms, amounting to 1 kg or 1 unit accordingly. This will allow situations to be avoided in which the exchange of smaller quantities of marine organisms is attempted.

VIII. SECTION F

Estimation and discussion of balance indicators

In May 2020, the National Marine Fisheries Research Institute (*Morski Instytut Rybacki-Państwowy Instytut Badawczy*) in Gdynia prepared – at the request of the Fisheries Department at the Ministry of the Maritime Economy and Inland Waterways – the following indicators to assess the balance between fishing capacity and fishing opportunities.

The methodology used to calculate these indicators is consistent with the European Commission's 'Guidelines for the analysis of the balance between fishing capacity and fishing opportunities according to Article 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy'.

Biological indicators: sustainable harvest indicator, stocks at risk indicator, and **technical indicators**: inactive fleet indicator and vessel utilisation indicator were prepared for the period 2017-19. Following the cycle for collecting economic data which is determined by the dates for submitting form RRW-19 to the National Marine Fisheries Research Institute (report on the economic results of fishing vessels for the year), it is possible for **economic indicators** to be calculated up to the year 2018.

Table 9 provides a summary of the values of certain parameters which are important for analysing the sustainability of fleet activity.

Data sources for biological indicators have not changed in terms of the assumptions upon which previous reports were based. Data is taken from ICES advisory documents for Baltic stocks for 2020 and catch data from 2017-19. The economic data used for 2016-18 was collected and approved (with the exception of 2018) under the EU Data Collection Framework (DCF EU). Catch and landing data used in the report was made available in the ERS system by the Fisheries Department of the Ministry of the Maritime Economy and Inland Waterways via the Fisheries Monitoring Centre.

The National Marine Fisheries Research Institute calculated the following indicators for each segment of the Polish fishing fleet:

- **Biological indicators (for 2017-19):**
  - ***Sustainable harvest indicator,***
  - ***Stocks at risk indicator;***
- **Economic indicators (for 2016-18):**
  - ***Return on investment (ROI) vs next best alternative,***
  - ***Ratio between current revenue and break-even revenue (CR/BER) indicator.***

Technical indicators (for 2017-18):

- ***Vessel utilisation indicator,***
- ***Inactive fleet indicator;***

The indicators were analysed for the following segments of the Polish fishing fleet:

- **VL0010 PG** - vessels up to 10 m in overall length using nets and other passive gear,
- **VL1012 PG** - vessels between 10 m and 12 m in overall length using nets and other passive

gear,

- **VL1218 DFN** - vessels between 12 m and 18 m in overall length using nets,
- **VL1218 DTS** - bottom trawlers between 18 m and 24 m in overall length,
- **VL1824 DTS** - bottom trawlers between 18 m and 24 m in overall length,
- **VL1824 TM** - pelagic trawlers between 18 m and 24 m in overall length,
- **VL2440 TM** - pelagic trawlers between 24 m and 40 m in overall length.

Biological indicators for 2017–19

1. Sustainable harvest indicator

The sustainable harvest indicator is a measure of how much a fleet segment relies on stocks that are overfished. 'Overfished' means that a stock is fished above the fishing mortality rate (F), in excess of the reference value. In line with the European Commission's guidelines, the Fmsy fishing mortality rate, i.e. the rate which results in a stock size that produces the maximum sustainable yield (MSY) over a multi-year period, was adopted as the reference fishing mortality rate.

The sustainable harvest indicator (SHI) for a fleet segment is determined on the basis of all stocks exploited by the segment for which data is available to calculate the F/Fmsy ratio. The sustainable harvest indicator is an average of the F/Fmsy ratio for individual stocks (i) weighted by the value of the landings of that stock by the segment concerned (Vi):

$$SHI=\frac{\sum_{i=1}^{i=n} V_i \frac{F_i}{Fmsy_i}}{\sum_{i=1}^{i=n} V_i},$$

where 'n' represents the number of stocks taken into account.

The lower the value of the indicator, the less dependent the given fleet segment is on overfished stocks. The optimal situation is where all Fi/Fmsyi values are close to 1, meaning the value of the SHI indicator is also close to 1.

According to guidelines from the Scientific, Technical and Economic Committee for Fisheries (STECF), the indicator is deemed unavailable if more than 60% of the value of the catch taken by the segment is catch of stocks for which the fishing mortality rate or Fmsy are not determined.

The SHI was calculated on the basis of stocks for which the F/Fmsy ratio could be established based on ICES assessments and analyses. Those stocks are:

a) Western Baltic cod (sub-areas 22-24);
b) Eastern Baltic cod (sub-areas 24-32); the available F/Fmsy assessments for this stock were made using the stock-production model (SPiCT);
c) Western Baltic herring (sub-areas 20-24);
d) Central Baltic herring (sub-areas 25-29 and 32);
e) Baltic Sea sprat (sub-areas 22-32).

In 2017-19, the catch value of the above stocks accounted for more than 40% of the total catch value of the segments analysed, with the exception of segment VL0010 PG and segment

VL1012 PG in 2019. The indicator can therefore only be considered unavailable for those segments, despite being calculated and presented in this report.

The SHI indicator values are presented in Table 3. The values calculated for 2019 are presented alongside updated calculations for 2017-18 as a result of changes in the F/Fmsy level in subsequent assessments of resources performed by ICES.

Table 3: Sustainable harvest indicator (SHI) for Polish fleet segments analysed for 2017-19

Segment	2017	2018	2019
VL0010 PG*	1.67	2.50	2.26
VL1012 PG**	1.99	2.72	2.52
VL1218 DFN	1.90	2.89	2.84
VL1218 DTS	1.95	2.58	2.44
VL1824 DTS	1.87	2.38	2.28
VL1824 TM	1.59	1.83	1.87
VL2440 TM	1.53	1.69	1.72

* for the period 2017-2019 the indicator is considered unavailable as less than 40% of the catch value of the segment was based on stocks with the F/Fmsy ratio over that period.
** for 2019 the indicator is considered unavailable as less than 40% of the catch value of the segment was based on stocks with the F/Fmsy ratio during that year.

A new analysis became available in 2019 on the status of Eastern Baltic cod stocks and exploitation (stock synthesis model). However, no Fmsy was determined for this stock. Nevertheless, the F/Fmsy ratio assessment is possible on the basis of calculations made using the stock-production model (SPiCT), presenting trends in biomass and fishing mortality for the stock similar to the stock synthesis model. The F/Fmsy values determined via the SPiCT model were used as data for Eastern Baltic cod in order to calculate the SHI indicator.

During the period under review, all fleet segments were heavily reliant on overfished stocks. The SHI indicator exceeded 1, including by a large margin for segments VL1012PG, VL1218DFN, VL1218DTS and VL1824DTS for which cod accounts for between 30 and 50% of the catch value. The SHI indicator is also high for the VL0010PG segment. However, catch for which F/Fmsy are available accounts for less than 40% of the catch value of the segment, meaning that the SHI indicator does not need to be presented in this case. **In terms of catch sustainability, the best segments were those fishing mainly herring and sprat, i.e. VL1824TM and VL2440TM. However, even in these segments the SHI indicator was far greater than 1**.

2. *Stocks at risk indicator*

The stocks at risk indicator (SRI) aims to determine the catch taken by a given fleet segment from stocks with heavily reduced biomass and in a condition such that stock productivity may be greatly diminished. In accordance with the Commission's guidelines, a stock at risk is a stock:

a) with reproductive biomass below Blim;
b) for which closure has been recommended, targeted fishing banned, catch reduced to the lowest possible level, etc.;
c) subject to regulations on returning fish unharmed to the sea or banning landings;
d) on the 'red list' or listed by CITES.

The indicator is calculated as the number of stocks exploited by a given segment which meet the following conditions:

1) catch from the stocks considered at risk makes up more than 10% of the fleet segment's catch

or

2) more than 10% of the fleet segment's catch is from stock considered at risk.

The calculation formula is as follows:

$SRI=\sum_{i=1}^{i=n}$ (1 where ($C_i > 0.1\ C_t$) *or* ($C_i > 0.1T_i$); *otherwise* 0),

where
Ci – catch from stock i,
Ct – total catch of all stocks taken by the fleet segment,
Ti – total catch of stock i taken by all segments.

Of the stocks which were analysed, the following met the 'at risk' criteria:

a) Western Baltic herring in 2017-19 as the stock biomass was lower than Blim during that period;
b) Western Baltic cod in 2017-18 as the stock biomass was lower than Blim during that period, contrary to 2019 when Blim was exceeded;
c) Eastern Baltic cod in 2017-19 as the stock biomass was lower than Blim during that period.

The SRI values calculated for the segments of the Polish fleet which were analysed are presented in Tables 4(a) to (c) below.

Table 4: Stocks at risk indicator (SRI) for Polish fleet segments analysed for 2017-19.

a) 2017

Segment	Herring catch in sub-areas 20-24 (in	Cod catch in sub-areas 22-24 (in	Cod catch in sub-areas 24-32 (in	Total catch of segment (in	Indicator
VL0010 PG	0.35	0.02	0.48	6.48	1
VL1012 PG	0.37	0.25	0.78	4.01	3
VL1218 DFN	0.00	0.04	0.56	1.35	1
VL1218 DTS	0.20	0.36	1.99	10.91	2
VL1824 DTS	0.17	0.25	1.57	8.86	2
VL1824 TM	0.05	0.01	0.84	20.40	1
VL2440 TM	2.26	0.02	0.29	85.72	1
Total	3.38	0.95	6.50	137.74	

b) 2018

Segment	Herring catch in sub-areas 20-24 (in	Cod catch in sub-areas 22-24 (in	Cod catch in sub-areas 24-32 (in	Total catch of segment (in	Indicator
VL0010 PG	0.29	0.02	0.53	5.62	1
VL1012 PG	0.27	0.12	1.11	4.95	2
VL1218 DFN	0.00	0.02	0.21	0.40	2
VL1218 DTS	0.21	0.46	1.81	11.65	2
VL1824 DTS	0.03	0.23	1.50	11.13	2
VL1824 TM	0.00	0.00	0.53	24.73	1
VL2440 TM	0.94	0.00	0.27	98.95	1
Total	1.74	0.86	5.96	157.43	

c) 2019

Segment	Herring catch in sub-areas 20-24 (in thousand tonnes)	Cod catch in sub-areas 24-32 (in thousand tonnes)	Total catch of segment (in thousand tonnes)	Indicator
VL0010 PG	**0.21**	**0.22**	**6.98**	**1**
VL1012 PG	**0.10**	**0.39**	**3.98**	**1**
VL1218 DFN	**0.00**	**0.12**	**0.31**	**1**
VL1218 DTS	**0.11**	**1.07**	**11.00**	**2**
VL1824 DTS	**0.03**	**0.91**	**11.52**	**1**
VL1824 TM	**0.00**	**0.41**	**18.49**	**1**
VL2440 TM	**0.63**	**0.19**	**93.69**	**1**
Total	**1.08**	**3.31**	**145.96**	

In 2017-19, Western Baltic cod and herring catch did not exceed 10% of the catch of any fleet segment (condition 1 regarding reliance on catch from stocks at risk). Catch of Western Baltic cod is limited, generally representing less than 1% of the Polish fleet's total catch. Similarly, catch of Western Baltic herring was relatively small, accounting for 2-3% of the fleet's catch during the period under review. However, in some cases, catch of stocks at risk by a given segment represented over 10% of the catch of that stock by all segments (condition 2 regarding reliance on catch from stocks at risk). In the case of East Baltic cod, some segments fulfilled both conditions regarding reliance on catch from stocks at risk. All segments over the period 2017-19 were reliant on between 1 and 3 stocks at risk. However, in 2019 this number

fell in several segments, mainly due to an improvement in Western Baltic cod stocks (biomass> Blim in 2019) (Table 4 a), b) and c)).

In conclusion, catch taken by all segments comprised a share (> 10%) of stocks at risk, most often one or two stocks at risk. **In 2019, only segment VL1218 DTS had an SRI indicator of 2**. All other segments had an indicator of 1.

Economic indicators for 2016-18

1. Return on investment (ROI) vs next best alternative

The return on investment indicator is a measure of the efficiency of an undertaking's operations which enables the undertaking's use of assets (capital) to be assessed in terms of efficiency. **If the value of the indicator is greater than 0, this means that the assets used generate income**. In this scenario, the interpretation of the indicator depends on cost of alternative capital. **If the ROI indicator is below 0, this means that the activity is not profitable** and that capital would be better used elsewhere (e.g. in the form of long-term risk-free securities or other revenue sources). The differences in indicator values for individual fleet segments show which group of vessels (vessel segment) operates making the most efficient use of assets. The indicator is calculated in terms of the profitability of an undertaking relative to the value of its fixed assets (value of vessel).

Table 5 presents the value of the ROI indicator and the data used to calculate it (N.B.: In the table, subsidies, however, were not taken into account when calculating the indicator).

Table 5: Return on investment indicator for Polish Baltic fleet segments in 2018 (in thousand €)

No	Specification	VL0010PG	VL1012PG	VL1218DFN	VL1218DTS	VL1824DTS	VL1824TM	VL2440TM	Total
1.	**Total revenue, of which:**	**10,626**	**5,549**	**742**	**6,645**	**5,089**	**5,735**	**21,160**	**55,546**
1.1	income from landings	6,391	4,517	585	5,879	4,748	5,269	21,105	48,494
1.2	other income	5	3	19	183	0	0	55	264
1.3	subsidies	4,231	1,029	137	583	341	466	0	6,788
2.	**Total costs, of which:**	**9,940**	**4,246**	**698**	**5,158**	**5,343**	**3,156**	**16,346**	**44,888**
2.1	wages	2,573	1,394	234	1,329	1,213	919	5,291	12,951
2.2	unpaid work	4,834	655	100	291	278	370	760	7,287
2.3	energy consumption	632	554	89	1,567	1,146	592	4,398	8,977
2.4	repair and maintenance	301	182	73	365	491	350	1,761	3,522
2.5	other variable costs	812	682	105	725	385	254	1,308	4,270
2.6	fixed costs	581	554	94	727	917	461	2,254	5,589
2.7	depreciation	208	225	3	155	915	212	576	2,293
3.	Profit/loss (revenue minus subsidies– total costs)	-3,545	273	-93	904	-595	2,113	4,814	3,870
4.	Fixed assets (value)	21,565	14,503	2,655	11,714	11,173	12,602	38,658	112,870
5.	**ROI (profit/fixed assets)**	**-16.44%**	**1.88%**	**-3.52%**	**7.72%**	**-5.33%**	**16.77%**	**12.45%**	**3.43%**

* not included in ROI calculations

Terms and definitions:

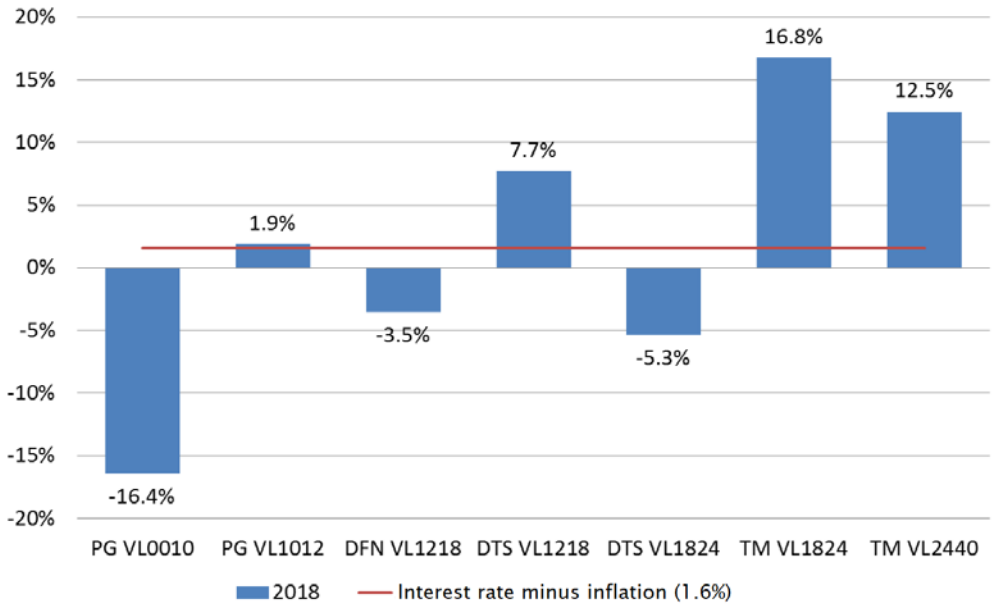
Income from landings - estimate based on data from first-sale documents. In the absence of such documents – this applies to sales of vessels of less than 8 m in length and cases where certain data relating to vessels of above 8 m are incomplete – the value of fish sales was calculated with reference to average annual prices of individual fish species by vessels which submitted first-sale documents, and to data relating to the value of catch taken by the entire fleet.

Other income - additional income from accompanying activities such as tourism or occasional activities.

Subsidies– mostly includes State aid granted to fishing vessel owners under the FISH OP, mainly in the form of compensation payments for temporary suspension of fishing activity and subsidies for vessel modernisation.

Wages – includes gross wages plus benefits.
Unpaid work – estimated value of unpaid work (e.g. owners and their families).
Energy consumption – covers fuel and lubricants used by vessels.
Repair and maintenance – technical support services for fishing vessels and equipment. Mostly provided as external services (e.g. bookkeeping). This includes costs incurred by vessel owners for the purchase of materials and services for ongoing vessel repairs and renovation. Data are determined on the basis of the RRW-19 statistics form.
Other variable costs – includes expenditure on fishing gear, ice, fish boxes, protective clothing, other materials, crew catering services, port and landing fees.
Fixed costs – costs not related to catch, incurred in respect of applicable fees, property insurance, protection measures, external services (except for renovation), financial costs, other costs, etc.
Depreciation – annual depreciation calculated on the basis of accounts, declared by fishing enterprises in RRW-19 forms.
Value of fixed assets – specified separately for each fishing vessel on the basis of a compensation rate obtainable by vessel owners where vessels are withdrawn with State aid.
Profit or loss – calculated on the basis of the above data as the difference between income from landings plus other income and total costs; does not include subsidies.
ROI – indicates profit or loss relative to the value of fixed assets.

Figure 1: Return on investment indicator for Polish Baltic fleet segments (2018)



Interpretation of ROI indicators

In 2018, the entire sector became less attractive for investment once again. Average return on capital was 3.43%, compared to 4.53% in 2017 and 9.41% in 2016. Despite a fall in the value of the indicator, Polish Baltic Sea fisheries remained above the level of the next best alternative investment, which in 2018 was 1.6%3 (indicator adjusted for inflation). As in the previous year, the value of the indicator worsened as a result of an increase in costs, mainly wages and unpaid work, by 7% and 15% respectively, while income from landings (despite an increase in the volume of landings) remained virtually unchanged (+0.8%) As a result, net performance fell significantly (from €5.3 million to €3.9 million (-27%). Wage costs increased on a par with the average wage in Polish companies (7%) and at a slightly higher rate than the minimum wage (5%).

Alongside labour costs, fuel costs are the most expensive cost item. In 2018, energy costs

[3] Long-term interest rate for convergence purposes.
http://sdw.ecb.europa.eu/quickview.do?SERIES_KEY=229.IRS.M.PL.L.L40.CI.0000.PLN.N.Z

increased by almost 13%, from €8 million to €9 million, due to an increase in marine fuel prices (by approximately 20%).

The ROI indicator varied across individual vessel segments. Generally speaking, segments made up of smaller vessels had a visibly lower ROI than segments comprising large vessels. **Three segments had a negative indicator value, namely VL0010PG, VL1218DFN and VL1824DTS**.

Segment VL0010PG had a negative ROI of -16.4% (-8.1% the previous year). The deterioration in the indicator value was primarily due to a fall in the value of income earned from landings (-22%). In 2018, the segment generated €6.4 million in income from landings (€7.1 million in 2017). This decline in income was mainly due to a fall in herring landings caused by the longer period of ice cover over the Vistula Lagoon and thus the later start to the fishing season. Catch data for 2019 (Table 10) show that segment results have improved, which should also improve the ROI indicator.

The ROI indicator improved in the VL1012PG segment, reaching 1.9% in 2018. This was slightly higher than the next best alternative (1.6%) of investing in fishing capital. This increase from a negative indicator in 2017 to a positive indicator in 2018 was possible due to the profit generated by the segment (of €0.3 million), which benefitted in turn from a positive influence due to higher income from fishing. Income in 2018, as compared to 2017, rose by as much as 1/3, mainly due to increased landings of cod, flounder and sea trout. At the same time, vessels belonging to the segment were able to limit the increase in their costs to just 4%. Unfortunately, the volume and value of the 2019 catch (mainly cod and sea trout) decreased significantly, by over 30%, which may see the return of a negative ROI in 2019.

In recent years, the ROI indicator for segment VL1218DFN has been hovering around the zero mark. However, in 2018 it deteriorated significantly, falling to -3.5%. This segment comprising vessels of between 12 m and 18 m in length fishing with static nets mainly targets demersal fish (cod and flounder), which largely explains the poor economic state of the segment. In 2018, the catch volume of the segment fell by as much as 75% compared to the previous year, while the value of landings decreased by 61%. In addition to the poor condition of cod stocks, the segment's reduced catch was caused by a decrease in the number of vessels belonging to the segment (from 23 to 10 vessels), which was the result of some vessels 'transferring' to the more successful VL1218DTS segment.

In 2018, segment VL1218DTS generated a profit of some €0.9 million, which not only allowed its positive ROI to be maintained but also increased it to 7.7% (from 5.3% in 2017). As with the vessels analysed above, the segment comprising vessels of between 12 m and 18 m in length specialising in bottom trawling focuses on cod and flounder fishing. The only difference between the two segments is that different gear is used which accounts for a dominant share of the catch (bottom trawls). Despite the crisis in cod stocks, the VL1218DTS segment saw its cod catch fall only slightly in 2018 (-4%), while flounder landings increased by as much as 17%. During that year, income from landings generated by vessels in the segment increased by 8% compared to the previous year, while total costs increased by only 4%. Despite the collapse in

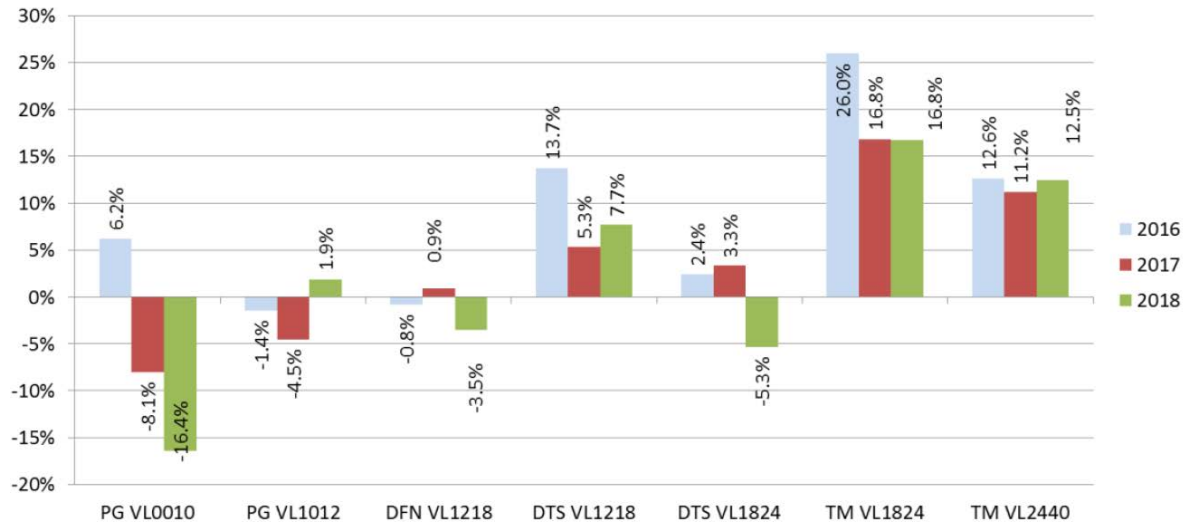
the cod catch, data for 2019 reveal that landings have fallen slightly in value compared to 2018 (-2%), which suggests a positive ROI will be maintained in 2019.

The return on investment indicator declined significantly for segment VL1824DTS, i.e. for vessels with a similar operating profile as that of the aforementioned segment, but with a different hull length, GT and engine power. Unlike segment VL1218DTS, segment VL1824DTS operates more in pelagic fisheries (Table 10). In 2018, vessels belonging to VL1824DTS registered a negative return on invested capital of -5.3%, which represented a decrease from its value in 2017 of +3.3%. The negative economic result and thus the negative ROI was primarily a consequence of a significant increase in wage costs (including the cost of unpaid work) and fuel costs. This led to overall costs increasing by more than 40% (as compared to income from landings which increased by half this amount).

The remaining two vessel segments comprising vessels specialising in sprat and herring fishing using pelagic trawls, namely **VL1824TM and VL2440TM, were profitable as in previous years. This also ensured that the ROI remained positive.**. In 2018, as in 2017, the indicator value of the former, i.e. segment VL1824TM, was 16.8%. A satisfactory return on invested capital was maintained while income from landings fell by 0.5%. This was due to a 17% reduction in fuel costs and a 7% reduction in fixed costs, and despite a rise in wage costs (+3%) and unpaid work (+17%). In 2019, the catch taken by segment VL1824TM was significantly lower than in 2018 (-23%), which translated into a 30% decrease in the value of income earned from landings. ROI is expected to deteriorate but is not projected to fall below the reference value (interest rate).

Segment VL2440TM segment, which comprises the largest fishing vessels operating in the Baltic Sea, has been generating a satisfactory profit in recent years, allowing an ROI to be achieved which far exceeds the level recommended. In 2018, the return on invested capital indicator was at 12.5%, a 1.3 percentage-point increase on the previous year. Despite lower prices in 2018 for fish belonging to species caught by the vessels in the segment, the value of income earned by the segment decreased only slightly (by 1%) owing to a 12% increase in landings. A slight improvement (3%) in profits generated by the segment was possible mainly due to a moderate increase in wage costs (+ 4%) and a noticeable reduction in repair and depreciation costs. The volume and value of the 2019 catch by large pelagic vessels fell by 3% and 6% respectively as compared to 2018. With fuel prices at the same level as in 2018 and accounting for the greatest share of the segment’s overall costs next to wages, ROI is expected to remain above the recommended level.

Figure 2: Changes in the ROI indicator, 2016-18



2. Ratio between current revenue and break-even revenue (CR/BER) indicator

The CR/BER indicator constitutes a profitability threshold which indicates if revenue is equal to the fixed and variable costs of a segment. Break-even revenue (BER) is the amount of revenue equivalent to all costs, whereas current revenue (CR) is the total operating income of a vessel or segment. The CR/BER indicator shows how close a fishing vessel is to becoming profitable in the short-term. **If the ratio is greater than 1, revenue is greater than or equal to variable and fixed costs, meaning that the segment is profitable. If the ratio is less than 1, the fleet/segment does not generate sufficient revenue to cover its costs. A negative CR/BER indicator means core activity is unprofitable and fixed costs cannot be covered (variable costs are higher than the revenue of the segment)**.

The CR/BER indicator by fleet segment in 2018 is presented in Table 6.

Table 6: CR/BER (current revenue/break-even revenue) indicator in 2018 (in thousand €)

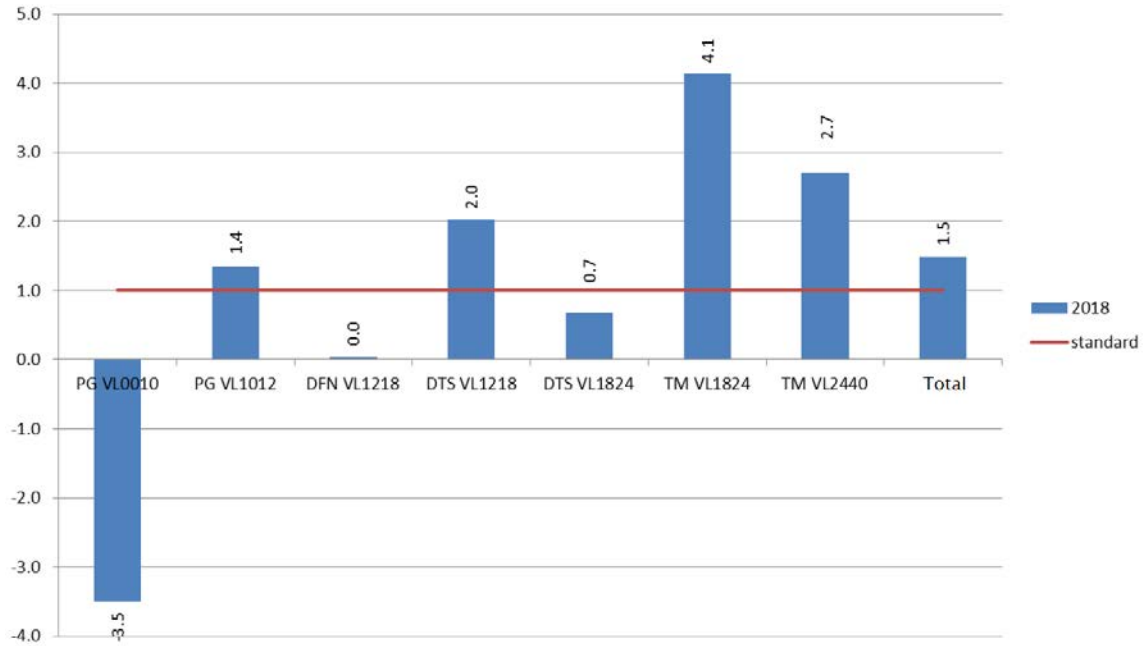
No	Specification	PG VL0010	PG VL1012	DFN VL1218	DTS VL1218	DTS VL1824	TM VL1824	TM VL2440	Total
1.	**Total revenue (CR), of which:**	**10,626**	**5,549**	**742**	**6,645**	**5,089**	**5,735**	**21,160**	**55,546**
1.1	income from landings	6,391	4,517	585	5,879	4,748	5,269	21,105	48,494
1.2	other income	5	3	19	183	0	0	55	264
1.3	subsidies	4,231	1,029	137	583	341	466	0	6,788
2.	**Variable costs, of which:**	**9,151**	**3,467**	**601**	**4,276**	**3,511**	**2,484**	**13,516**	**37,007**
2.1	wages	7,406	2,049	334	1,620	1,490	1,289	6,051	20,239
2.2	energy consumption	632	554	89	1,567	1,146	592	4,398	8,977
2.3	repair and maintenance	301	182	73	365	491	350	1,761	3,522
2.4	other variable costs	812	682	105	725	385	254	1,308	4,270
3.	**Fixed costs, of which:**	**789**	**779**	**97**	**881**	**1,832**	**673**	**2,830**	**7,881**
3.1	non-variable costs	581	554	94	727	917	461	2,254	5,589
3.2	depreciation	208	225	3	155	915	212	576	2,293
3.3	opportunity cost (not included)*	339	228	42	184	176	198	608	1,776
4.	**Revenue minus subsidies to ensure profitability (BER)**	**-1,830**	**3,347**	**15,215**	**2,992**	**7,034**	**1,272**	**7,834**	**32,700**
5.	**CR/BER**	**-3.49**	**1.35**	**0.04**	**2.03**	**0.67**	**4.14**	**2.70**	**1.49**

* As in previous years, the calculation method includes a short-term analysis, meaning that the opportunity cost, although shown in the table, is not taken into account in the calculations.

Terms and definitions:

Fixed costs – costs calculated independently of the catch volume associated with the activities of fishing enterprises.
Variable costs – costs determined on the basis of the catch levels (effects) or fishing effort of fishing enterprises.
Other fixed costs – costs not directly associated with fishing vessel catch volumes (including port fees, external services, insurance, financial and other costs).
Opportunity cost – should only be included in long-term assessments. This is the cost of using capital for the next best alternative.
CR (current revenue) – total current revenue.
BER (break-even revenue) – revenue which would cover all (fixed and variable) costs and mean a normal profit is generated (0).

Figure 3: CR/BER indicators for individual fleet segment in 2018 (public subsidies excluded from calculations).



Interpretation of CR/BER indicators

The CR/BER parameter is assessed in order to consider the financial viability of a given segment and the ratio between operating revenue and costs according to their degree of variability. The break even point can serve as a comparison against revenue obtained. **Segments which demonstrate that they can at least fully break even receive a positive assessment ('1')**.

A long-term downward trend in the BER indicator is a sign of an improved ratio between these key economic parameters (revenue/variable costs/fixed costs) and the increased profit-making potential of the segment.

Over the least three years, the CR/BER indicator has fallen in value, from 2.2 to 1.7 in 2017, and then to 1.5 in 2018 (Figure 4). This was due to an increase in costs – both fixed and variable (mainly wages, as referred to in the previous section) and a decrease or stagnation in income from landings. In 2018, fishing income and revenue from activities not directly related to fishing (e.g. angling trips) was only 0.9% higher than in 2017. At the same time, variable costs increased by 5% (including an increase in wages by 10% and fuel by 13%).

A sharp decline in the value of this indicator was observed in segment VL0010PG which comprises the smallest vessels. This was caused by the growing deficit among this group of vessels, resulting from a decrease in income from landings (collapse of cod stocks). The high level of subsidies channelled to this group of vessels slows activities limiting the segment's potential. Between 2016 and 2018, the number of vessels in segment VL1012PG only fell by 4. Over that same period, wages increased by 30% (likely financed by subsidies).

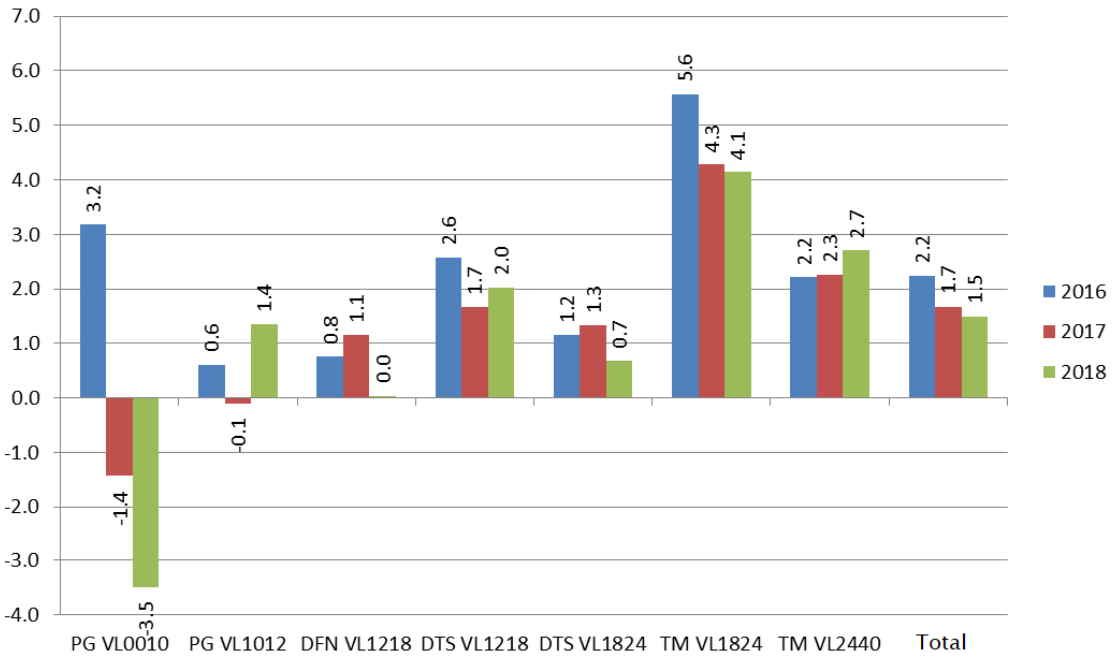
The remaining fleet segments achieved a positive index, with the exception of two segments (VL1218DFN and VL1824DTS) for which the index was below '1', meaning that income was not enough to cover fishing costs. The first of these segments experienced a considerable drop in

income from landings which, as mentioned earlier, was mainly due to the crisis in cod stocks which had a particularly severe impact on vessels fishing with static nets. The situation was slightly different for segment VL1824DTS which recorded an increase in income from landings (+ 20%). However, this was outstripped by the increase in both variable and fixed costs. The increase in fixed costs was mainly due to higher depreciation costs having completed investments in fixed assets.

The index for segment VL1012PG was slightly higher than recommended as income from landings was far higher than the previous year (+33%) and variable costs remained stable. Unfortunately, as landings decreased in value in 2019 (by 30%), the indicator is expected to fall below '1' or even register a negative value.

Long-term CR/BER indicator trends are shown in Figure 4.

Figure 4: CR/BER indicator values by fleet segment for 2016-18



Technical indicators for 2017-19

1. Vessel utilisation indicator

The vessel utilisation indicator was calculated on the basis of data on Baltic fleet activity between 2017 and 2019 provided by the Fisheries Monitoring Centre *(Centrum Monitorowania Rybołóstwa*) from the ERS database and analyses of this data by the National Fisheries Data Collection Programme (NPZDR).

As in previous years, the term 'fishing day' was defined as any continuous period of 24 hours (or part thereof) during which a vessel is present in a given zone and absent from port. For vessels submitting monthly fishing reports, a fishing day was a calendar day. Engine power (kW) and vessel capacity (GT) were determined on the basis of the ERS database for a given day of vessel fishing activity. Consequently, both values are calculated taking into account any changes in vessel parameters during the year. An exception applied to technical data for vessels not found in the ERS database. Where this was the case, values were based on the technical parameters in the fishing vessel register. Furthermore, in contrast to the methodology used to calculate the inactive fleet indicator (which only takes into account the vessels included in the register as at 31 December of the year concerned), the fleet capacity utilisation indicator was calculated taking into account all vessels active during the year (including those which began commercial fishing after 1 January of the year concerned, even if withdrawn from fishing before 31 December). In accordance with the methodology adopted, the maximum number of days actually spent at sea for the segment concerned was determined taking into account the number of such days reported for the most active vessel in that segment. As in previous years, the theoretical number of fishing days was not calculated. Data on fleet activity in the Baltic Sea is set out in Table 7..

Table 7: Vessel utilisation statistics by fleet segment for 2017-19

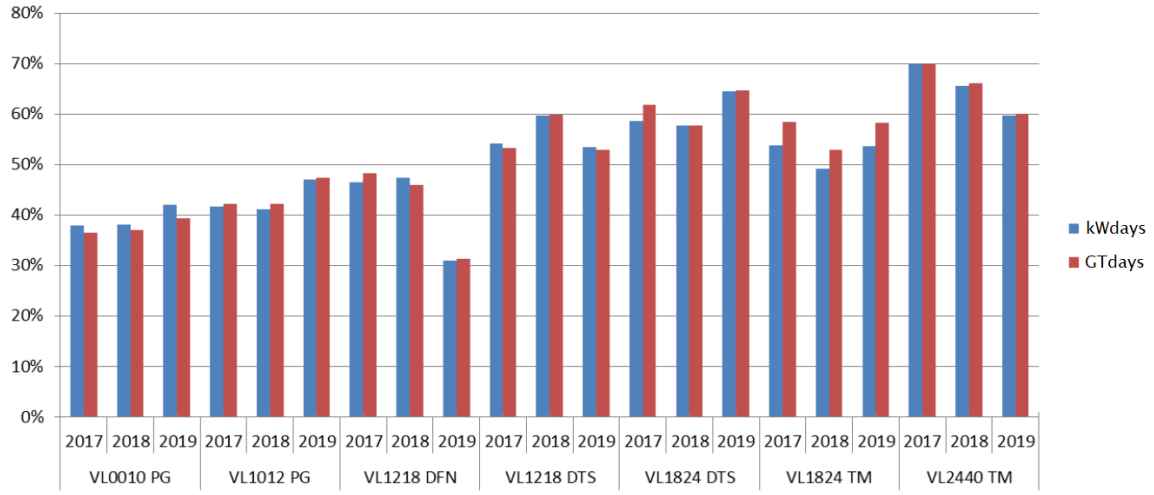
Year	Segment	Vessel number, power and capacity			Current effort			Maximum theoretical effort (observation data)				INDICATOR	
		Number	kW	GT	Days	kWdays	GTdays	Days per vessel[1]	Days	Number	kW	GT	Days
2017	VL0010 PG	514	14,334	1,545	40,772	1,162,319	120,547	214	109,996	3,067,476	330,630	38%	36%
	VL1012 PG	114	7,351	1,220	7,617	521,302	87,388	170	19,380	1,249,670	207,400	42%	42%
	VL1218 DFN	23	2,955	761	2,009	252,997	67,701	184	4,232	543,720	140,024	47%	48%
	VL1218 DTS	48	5,738	1,293	4,356	559,048	124,063	180	8,640	1,032,840	232,740	54%	53%
	VL1824 DTS	26	5,907	1,502	2,526	584,525	157,162	169	4,394	998,283	253,838	59%	62%
	VL1824 TM	28	6,869	1,754	2,928	720,230	199,713	195	5,460	1,339,455	342,030	54%	58%
	VL2440 TM	44	17,673	7,389	5,749	2,321,549	970,232	188	8,272	3,322,524	1,389,132	70%	70%
Total 2017		**797**	**60,828**	**15,46**	**65,957**	**6,121,96**	**1,726,80**	**201**	**160,374**	**11,553,96**	**2,895,794**	**53.0%**	**59.6%**
2018	VL0010 PG	510	14,220	1,529	40,792	1,141,724	119,598	211	107,610	3,000,420	322,619	38%	37%
	VL1012 PG	107	7,218	1,198	8,779	612,766	104,220	206	22,042	1,486,908	246,788	41%	42%
	VL1218 DFN	10	1,151	331	999	110,231	30,699	202	2,020	232,502	66,862	47%	46%
	VL1218 DTS	49	6,195	1,381	5,188	691,486	154,535	187	9,163	1,158,465	258,247	60%	60%
	VL1824 DTS	26	5,898	1,691	2,828	639,403	183,609	188	4,888	1,108,824	317,908	58%	58%
	VL1824 TM	32	7,931	1,855	2,910	717,405	180,513	184	5,888	1,459,304	341,320	49%	53%
	VL2440 TM	43	17,259	7,255	5,465	2,219,344	939,546	196	8,428	3,382,764	1,421,980	66%	66%
Total 2018		**777**	**59,871**	**15,23**	**66,961**	**6,132,36**	**1,712,72**	**206**	**160,039**	**11,829,18**	**2,975,724**	**51.8%**	**57.6%**
2019	VL0010 PG	517	14,411	1,558	44,622	1,315,079	132,953	217	112,189	3,127,187	338,086	42%	39%
	VL1012 PG	106	7,077	1,157	8,266	561,736	92,773	169	17,914	1,196,013	195,533	47%	47%
	VL1218 DFN	13	1,441	390	688	70,043	19,164	157	2,041	226,237	61,230	31%	31%
	VL1218 DTS	52	6,364	1,414	4,491	573,940	126,282	169	8,788	1,075,516	238,966	53%	53%
	VL1824 DTS	25	5,676	1,631	2,466	566,887	163,426	155	3,875	879,780	252,805	64%	65%
	VL1824 TM	30	7,320	1,689	2,075	513,894	128,966	131	3,930	958,920	221259	54%	58%
	VL2440 TM	43	17,573	7,255	4,871	2,015,167	836,769	192	8,256	3,374,016	1,392,960	60%	60%
Total 2019		**786**	**59,862**	**15,09**	**67,479**	**5,616,74**	**1,500,33**	**200**	**156,993**	**10,837,66**	**2,700,839**	**51.8%**	**55.6%**

[1]The number of days at sea by the most active vessel in a given segment.

In 2019, as in 2018, the kWdays and GTdays indicators were lower than the reference indicator (0.7) in all segments, meaning that the fishing capacity of the fleet was underutilised. Compared to 2018, the indicator for the Baltic fleet in 2019 did not change significantly overall. Relative changes in the indicator compared to 2018 did not exceed 7%, other than in the case of segment VL1218DFN in which the kWdays and GTdays indicators decreased by 16 and 15 percentage points respectively. As mentioned in the previous section of this report, fishing activity in the segment comprising vessels of between 12 m and 18 m in length fishing with static nets fell significantly due to the poor state of the cod stocks (the average number of days at sea in 2019 was as much as 47% lower than in 2017). Moreover, the number of vessels belonging to the segment fell from 23 to 13. As in the case of segment VL1218DFN, a deterioration in vessel utilisation indicators was also observed in neighbouring segment VL1218DTS. The kWdays and GTdays indicators decreased by 6 and 7 percentage points respectively, possibly as a result of some of the ships transferring from the former to the latter segment. There was a noticeable decline in the average number of days at sea (by 18%).

Vessel utilisation indicators fell by 6 percentage points in segment VL2440TM. This year the fleet capacity utilisation indicator deteriorated once again. In 2019, the segment comprised 43 vessels and the average time spent at sea was 113 days, representing an 11% decrease on the previous year (Figure 5). The reduction in fishing effort was possibly a consequence of the segment adjusting to adverse external conditions related the reduction in the catch limit for herring and lower prices for sprat. If TACs for pelagic fish are reduced further, this may cause the fishing capacity of the segment to deviate increasingly from the fishing opportunities available to the segment.

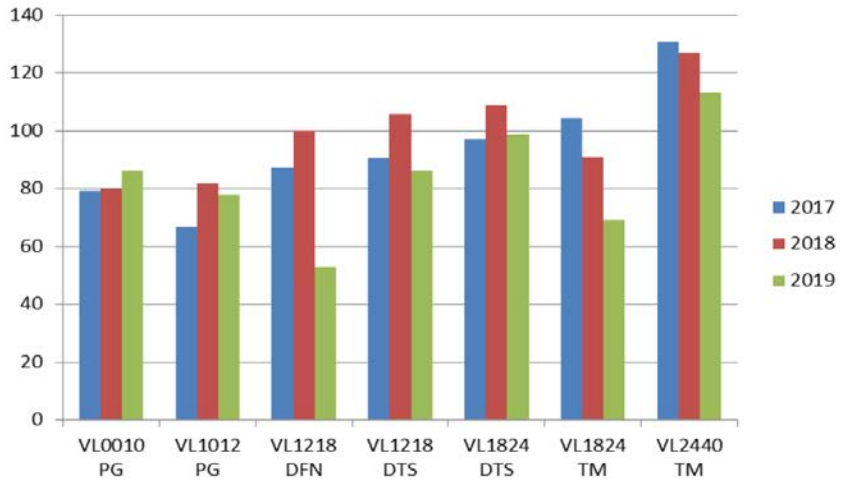
Figure 5: Fleet capacity utilisation levels in kWdays and GTdays for 2017-19



Indicators improved in the segment comprising the smallest vessels, namely segment VL0010PG, and in the neighbouring segment of slightly larger vessels, i.e. segment VL1012PG. As presented in the previous section of the report, fishing vessels up to 10 meters in length recorded significant losses in 2018, resulting in negative ROI and CR/BER indicators, whilst in 2019 the catch volume and value increased. In 2019, vessels belonging to this segment spent 86 days at sea, i.e. an increase of 8% compared to 2017. Bearing in mind the aforementioned increase in the value of landings from this segment in 2019, the economic performance of the segment is expected to improve.

Indicators for segments VL1824TM and VL1824DTS improved by several percentage points. However, they remained much lower than the recommended 70%, which may suggest overcapacity in these segments. In segment VL1824DTS, the increase in fishing effort may have resulted from the need to redirect attention away from cod fishing and towards other fish (mainly flounder). Given the difference in price between these two species (cod is significantly more expensive), the economic efficiency of the segment may be adversely impacted by this. Worryingly, both segments saw a decline in the average number of days at sea, namely by 24% in case of VL1824TM and 13% in the case of VL1824DTS (Figure 6).

Figure 6: Average number of fishing days in 2017-19



2. Inactive fleet indicator

Inactive fleet indicators were calculated on the basis of data for all active and inactive vessels recorded in the EU fishing fleet register by 31 December of the reporting year, pursuant to Commission Implementing Regulation (EU) 2017/218 of 6 February 2017 on the Union fishing fleet register[4]. 'Active vessel' means any vessel engaging in fishing operations on at least one day of the reporting year[5].

Data analysis was carried out by vessel length (VL) in accordance with the Data Collection Framework (DCF) methodology.

In 2019, as in previous years, the share of inactive vessels in the Polish Baltic fleet remained relatively low. Compared with 2018, the overall value of the indicator improved slightly: 5%, 2% and 3% respectively in terms of the number of vessels, GT and kW (compared with 6%, 1% and 3% in 2017). There was a noticeable decrease in the number of inactive vessels in segment VL0010 (decrease from 25 to 19). However, give the large number of vessels in the segment overall, this difference is relatively insignificant. The number of inactive vessels in the segment comprising vessels of between 18 m and 24 m increased by 5 percentage points. However, in absolute terms this corresponded to an increase of only three vessels, which makes it difficult to understand whether this change is the result of negative or permanent factors affecting the segment.

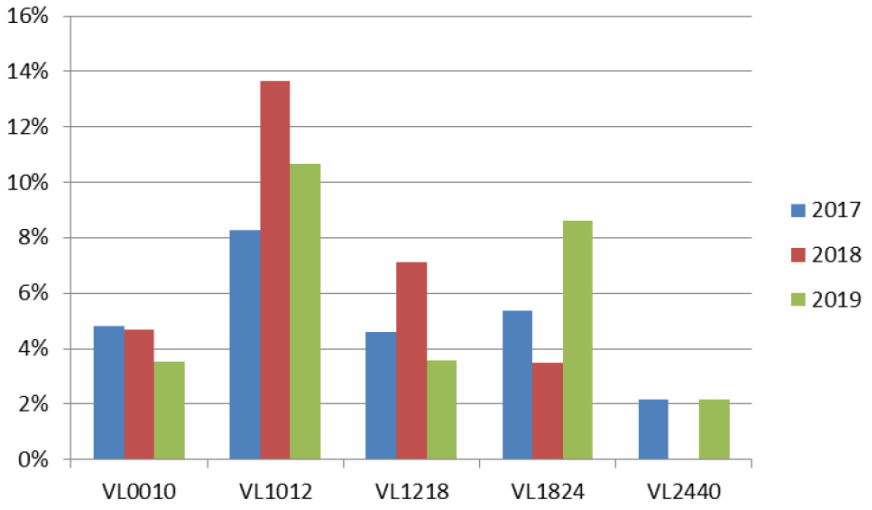
Table 8: Fleet activity statistics for 2017-19

		Active			Inactive			Inactive/total		
Year	DCF length	Numb	GT	kW	Numb	GT	kW	Numb	GT	kW
2017	VL0010	514	1,547	14,343	26	67	387	5%	4%	3%
	VL1012	122	1,329	8,038	11	99	737	8%	7%	8%
	VL1218	62	1,911	7,654	3	70	264	5%	4%	3%
	VL1824	53	3,077	12,340	3	257	723	5%	8%	6%
	VL2440	45	7,127	17,620	1	259	552	2%	4%	3%
	VL40XX	6	21,535	23,751				0%	0%	0%
Total 2017		**802**	**36,526**	**83,746**	**44**	**752**	**2,663**	**5%**	**2%**	**3%**
2018	VL0010	510	1,529	14,230	25	71	387	5%	4%	3%
	VL1012	114	1,284	7,843	18	132	904	14%	9%	10%
	VL1218	52	1,629	6,800	4	70	323	7%	4%	5%
	VL1824	55	3,206	12,737	2	180	455	4%	5%	3%
	VL2440	46	7,386	18,476				0%	0%	0%
	VL40XX	4	24,636	23,436				0%	0%	0%
Total 2018		**781**	**39,670**	**83,522**	**49**	**453**	**2,069**	**6%**	**1%**	**2%**
2019	VL0010	517	1,560	14,420	19	37	201	4%	2%	1%
	VL1012	117	1,306	7,963	14	107	732	11%	8%	8%
	VL1218	54	1,637	6,919	2	41	193	4%	2%	3%
	VL1824	53	3,125	12,325	5	298	988	9%	9%	7%
	VL2440	45	7,241	18,056	1	145	420	2%	2%	2%
	VL40XX	3	16,871	18,140				0%	0%	0%
Total 2019		**789**	**31,740**	**77,823**	**41**	**628**	**2,534**	**5%**	**2%**	**3%**

[4] Contrary to the 2019 report which states by 1 January. Amendment transposing Commission Implementing Decision (EU) 2016/1251 of 12 July 2016 adopting a multiannual Union programme for the collection, management and use of data in the fisheries and aquaculture sectors for the period 2017-2019 (Chapter 3, point 5).
[5] Chapter 1 of the above (Definitions).

The inactive vessel indicator only exceeded the level of 10% referred to in the methodology as the level occurring under normal conditions in one segment (number of inactive vessels/total for segment VL1012). This indicator improved by 3 percentage points compared to 2018.

Figure 7: Relative share of inactive vessels by vessel length category



IX. Analysis and evaluation of the balance between fishing capacity and fishing opportunities by fleet segment over three consecutive years

Table 9: List of indicator values for individual segments of the Polish fishing fleet over three consecutive years (2016-18 or 2017-19 respectively)

Segment	Number of fishing vessels	Sustainable harvest indicator (SHI)	Stocks at risk indicator (SRI)	CR/BER	ROI	Vessel utilisation indicator	
						kWdays	GTdays
VL0010PG	517 2019	2.26 2019	1 2019	-3.49 2018	-16.44% 2018	42 2019	39% 2019
	510 2018	2.50 2018	1 2018	-1.43 2017	-8.06% 2017	45% 2018	45% 2018
	514 2017	1.67 2017	1 2017	3.18 2016	-6.21% 2016	35% 2017	33% 2017
VL1012PG	106 2019	2.52 2019	1 2019	1.35 2018	-1.88% 2018	47% 2019	47% 2019
	107 2018	2.72 2018	2 2018	-0.11 2017	-4.44% 2017	45% 2018	46% 2018
	114 2017	1.99 2017	3 2017	0.61 2016	-1.43% 2016	42% 2017	52% 2017
VL1218DFN	13 2019	2.84 2019	1 2019	0.04 2018	-3.52% 2018	31% 2019	31% 2019
	10 2018	2.89 2018	2 2018	1.15 2017	-0.95% 2017	49% 2018	47% 2018
	23 2017	1.90 2017	1 2017	0.75 2016	-0.83% 2016	45% 2017	47% 2017
VL1218DTS	48 2019	2.44 2019	2 2019	2.03 2018	7.72% 2018	53% 2019	53% 2019
	49 2018	2.58 2018	2 2018	1.66 2017	5.33% 2017	60% 2018	60% 2018
	49 2017	1.95 2017	2 2017	2.58 2016	13.07% 2016	54% 2017	54% 2017
VL1824DT	25 2019	2.28 2019	1 2019	0.67 2018	-5.33% 2018	64% 2019	65% 2019
	26 2018	2.38 2018	2 2018	1.32 2017	3.33% 2017	58% 2018	58% 2018
	26 2017	1.87 2017	2 2017	1.15 2016	2.42% 2016	60% 2017	63% 2017
VL1824TM	30 2019	1.87 2019	1 2019	4.14 2018	16.77% 2018	54% 2019	58% 2019
	32 2018	1.83 2018	1 2018	4.29 2017	16.80% 2017	49% 2018	53% 2018
	28 2017	1.59 2017	1 2017	5.56 2016	25.98% 2016	52% 2017	57% 2017
VL2440TM	43 2019	1.72 2019	1 2019	2.7 2018	12.45% 2018	60% 2019	60% 2019
	43 2018	1.69 2018	1 2018	2.26 2017	11.16% 2017	66% 2018	66% 2018
	44 2017	1.53 2017	1 2017	2.21 2016	12.60% 2016	70% 2017	70% 2017

Summary assessment of the sustainability of individual segments of the Baltic fishing fleet.

1. Results for segment VL0010PG (vessels up to 10 m in overall length, fishing with nets and other passive gear):

- Biological indicators (2019):
  - ✓ sustainable harvest indicator: 2.26
  - ✓ stocks at risk indicator: 1
- Technical indicators (2019):
  - ✓ vessel utilisation indicator: 42% of kWdays and 39% of GTdays
  - ✓ inactive fleet indicator: 4% of the total number of fishing vessels in the segment comprising vessels up to 10 m in length, meaning that 2% of GT and 1% of kW were under-utilised
- Economic indicators (2018):
  - ✓ return on investment (ROI) indicator: -16.4%,
  - ✓ current revenue/break-even revenue (CR/BER) indicator: -3.49%

A worsening trend can be seen from the biological indicators for segment VL0010 PG. Between 2017 and 2019 the indicators were above the recommended level. The fishing capacity of segment VL0010 PG therefore cannot be considered sustainable relative to available fishing opportunities. Nevertheless, the segment fails to meet the condition whereby a minimum of 40% of the catch value must come from stocks for which fishing mortality or Fmsy has been determined.. According to the guidelines, the SHI indicator is therefore considered unavailable. For this reason, the indicator value calculated for those vessels (as shown in Table 3) should be treated as supplementary and not be taken into account when assessing the segment's sustainability.

In the segment, capacity utilisation by fishing vessels remains very low. The indicator improved in 2018 (by 10-12 percentage points). However, it decreased again in 2019, remaining below the reference value (70%).

The segment was profitable in 2016, which ensured a positive return on invested capital (6.21% ROI). In 2017, due to operating losses, the indicator was negative (-8%). In 2018, following a significant decrease in income from landings (by 1/5), the indicator deteriorated further to reach -16.4%. Similarly, the current revenue/break-even revenue (CR/BER) indicator was negative, with a reference value of >1. In 2018, the indicator dropped two percentage points. Catch data for 2019 show that segment results have improved, which should also improve the ROI indicator. Nevertheless, the indicator is not expected to reach a safe level.

In conclusion, **segment VL0010PG is clearly unsustainable in terms of the available fishing opportunities. Moreover, it is not economically viable**.

2. Results for segment VL1012PG (vessels between 10 m and 12 m in overall length, fishing with nets and other passive gear):

- Biological indicators (2019):
  - ✓ sustainable harvest indicator: 2.52
  - ✓ stocks at risk indicator: 1
- Technical indicators (2019):
  - ✓ vessel utilisation indicator: 47% of kWdays and GTdays
  - ✓ inactive fleet indicator for the segment comprising vessels of between 10 m and 12 m in length: 11% of the total number of fishing vessels, meaning that 8% of GT and kW of vessels from this length category were under-utilised
- Economic indicators (2018):
  - ✓ return on investment (ROI) indicator: 1.9%,
  - ✓ current revenue/break-even revenue (CR/BER) indicator: correct value 1.35%

The improvement in economic indicators from a negative value in 2017 to a positive value in 2018 was possible due to the profit generated by the segment (of €0.3 million), which benefitted in turn from a positive influence due to higher income from fishing (increased catches of cod, flounder and sea trout). Unfortunately, the volume and value of the 2019 catch

(mainly cod and sea trout) decreased significantly, by over 30%, which may see the return of negative economic indicators in 2019.

The indicators are as presented above, with overfished stock forming the basis of the segment's catch (the sustainable harvest indicator for the period 2017-19 significantly exceeded 1). At the same time, the stocks at risk indicator decreased to 1 in 2019.

The profitability which the segment regained in 2018 will most likely be short-lived, with a return to deficit in the coming years (negative ROI and CR/BER indicators). As in previous years, the segment in question had a high inactive vessel indicator (the highest of all segments) in 2019. The segment comprising vessels of between 10 m and 12 m in length was one of the few segments to increase in size during the fleet scrapping programme and the only segment to do so from that class. Between 2004 and 2019, the number of vessels in the segment increased from 91 to 133[6]. This was mainly caused by vessels of <10 m 'transitioning' to the segment following hull reconstruction works due to higher catch limits for cod. In particular, given the current collapse of cod stocks, this may have contributed to the structural overcapacity compared to fishing opportunities.

Segment VL1012 PG is clearly unsustainable in terms of the available fishing opportunities (biological indicators improved only slightly in 2019) and is not economically viable in the long term. The improvement in the indicators in 2018 will most likely be short-lived**.**

3. Results for segment VL1218DFN (vessels between 12 m and 18 m in overall length, fishing with nets):

- ❖ Biological indicators (2019):
  - ✓ sustainable harvest indicator: 2.84
  - ✓ stocks at risk indicator: 1
- ❖ Technical indicators (2019):
  - ✓ vessel utilisation indicator: 31% of kWdays and GTdays
  - ✓ inactive fleet indicator for vessels between 12 m and 18 m in length (fleet segments DFN and DTS): 4 % of the total number of fishing vessels, meaning that 2% of GT and 3% of kW of vessels from this length category were under-utilised,
- ❖ Economic indicators (2018):
  - ✓ return on investment (ROI) indicator: -3.5%,
  - ✓ current revenue/break-even revenue (CR/BER) indicator: 0.04%.

In 2019, the segment in question became more reliant on overfished stocks (between 2017 and 2019 the sustainable harvest indicator was significantly above 1). The stocks at risk indicator decreased from 2 (in 2018) to 1.

The decrease in number of vessels in the segment from 23 to 10 was the result of some vessels 'transferring' to the more successful VL1218DTS segment in 2018 (in 2019, the number of vessels increased slightly, reaching 13 vessels). Consequently, the catch volume of

[6]Data refers to all vessels of between 10 m and 12 m in length included in the fleet register as at 31 December and therefore does not correspond exactly to the number of active vessels in segment VL1012 PG.

the segment in 2018 fell by as much as 75% compared to the previous year, while the value of landings decreased by 61%. This was the fundamental reason for the significant deterioration in the economic indicators.

Based on the analysis carried out, **segment VL1218DFN is unsustainable in terms of the available fishing opportunities, as can be seen from the biological indicators which were far exceeded by the segment. In terms of the economic indicators, the CR/BER indicator was below the reference level ('1') in 2018, as was the ROI indicator which was below the level corresponding to the option for alternative investment. This shows that despite the reduction in the segment's capacity, it is still unsustainable**.

4. **Results for segment VL1218 DTS (bottom trawlers between 12 m and 18 m in overall length):**
   - ❖ Biological indicators (2019):
     - ✓ sustainable harvest indicator: 2.44
     - ✓ stocks at risk indicator: 2
   - ❖ Technical indicators (2019):
     - ✓ vessel utilisation indicator: 53% of kWdays and GTdays
     - ✓ inactive fleet indicator: 4% of the total number of fishing vessels, meaning that 2% of GT and 3% of kW of vessels from this length category were under-utilised
   - ❖ Economic indicators (2018):
     - ✓ return on investment (ROI) indicator: 7.7%,
     - ✓ current revenue/break-even revenue (CR/BER) indicator: 2.03%.

In 2019, the biological indicators in respect of the sustainability of segment capacity deteriorated further. The sustainable harvest indicator deteriorated compared to 2017 (2.44 as opposed to 1.95 in 2017). On the basis of the value of this indicator, segment VL1218DTS relies on overfished stocks which are exploited at a level far exceeding F_{MSY}. Segment VL1218DTS had a stocks at risk indicator value of 2 in 2019.

The economic results can be assessed as positive. The ROI indicator fluctuated during the period in question (7.70% in 2018, 5.33% in 2017 and 13.07% in 2016). The CR/BER indicator (above '1') confirmed a sound financial situation, with a good ratio in terms of revenue covering costs. Despite the collapse in the cod catch, data for 2019 reveal that landings have fallen slightly in value compared to 2018 (-2%), which suggests positive economic indicators will be maintained in 2019.

Taking into account the biological indicator values, **fishing capacity in segment VL1218DTS is not resource sustainable relative to available fishing opportunities**. The economic indicators for the segment suggest its economic situation is sound.

5. **Results for segment VL1824DTS (bottom trawlers between 18 m and 24 m in overall length):**
   - ❖ Biological indicators (2019):
     - ✓ sustainable harvest indicator: 2.28
     - ✓ stocks at risk indicator: 1

- ❖ Technical indicators (2019):
  - ✓ vessel utilisation indicator: 64% of kWdays and 65% of GTdays
  - ✓ inactive fleet indicator for the segment comprising vessels of between 18 m and 24 m in length: 9% of the total number of fishing vessels, meaning that 9% of GT and 7% of kW of vessels from this length category were under-utilised
- ❖ Economic indicators (2018):
  - ✓ return on investment (ROI) indicator: -5.33%,
  - ✓ current revenue/break-even revenue (CR/BER) indicator: 0.67%.

Segment VL1824DTS had a stocks at risk indicator value between 1 and 2 during the years in question. The segment also relies on overfished stocks which are exploited well above F_{MSY} (between 2017 and 2019, the sustainable harvest indicator was considerably higher than 1).

The segment was characterised by a negative ROI, as was the CR/BER indicator which in 2018 was below the desired level ('1'). In 2018, the ROI indicator deteriorated (from a good level in 2017). Similarly, the current revenue/break-even revenue indicator decreased. The negative economic result and thus the negative ROI and drop in the CR/BER indicator below the desired level was primarily a consequence of a significant increase in wage costs (including the estimated cost of unpaid work) and fuel costs. That being said, the vessel utilisation indicator improved (albeit failing to exceed the recommended level of 70%), while the inactive fleet indicator deteriorated (from 4% to 9%).

The biological indicators for segment VL1824DTS during the years in question demonstrate a persistent lack of catch sustainability and a reliance on overfished stocks, indicating that the segment is unsustainable. Similarly, the economic indicators are below the desired level.

6. VL1824TM segment performance (pelagic trawlers between 18 m and 24 m in overall length):

- ❖ Biological indicators (2019):
  - ✓ sustainable harvest indicator: 1.87
  - ✓ stocks at risk indicator: 1
- ❖ Technical indicators (2019):
  - ✓ vessel utilisation indicator: 54% of kWdays and 58% of GTdays
  - ✓ inactive fleet indicator: 9% of the total number of fishing vessels, meaning that 9% of GT and 7% of kW of vessels from this length category were under-utilised
- ❖ Economic indicators (2018):
  - ✓ return on investment (ROI) indicator: 16.77%,
  - ✓ current revenue/break-even revenue (CR/BER) indicator: 4.14%.

In segment VL1824, the SHI indicator did not reach the level corresponding to a sustainable harvest (below 1) during any of the periods analysed, suggesting that the segment relies on overfished stocks which are exploited above F_{MSY}. Conversely, the stocks at risk indicator was '1' over the period 2017-19.

As in 2017, segment VL1824TM had an indicator in 2018 below that of 2016. However, it remained high (16.77%). A sound return on invested capital was maintained while income from landings fell by 0.5%. This was due to a 17% reduction in fuel costs, a 7% reduction in fixed costs and only a small rise in wage costs (+3%) and unpaid work (+17%). The current revenue/break-even revenue (CR/BER) indicator also exceeded the desired level. In 2019, the catch taken by segment VL1824TM was significantly lower than in 2018 (-23%), which translated into a 30% decrease in the value of income earned from landings. The economic indicators are therefore expected to deteriorate in 2019. However, they should still remain higher than expected.

In conclusion, the fishing capacity of segment VL1824TM is unsustainable to a considerable extent relative to available fishing opportunities given the deviation of the SHI indicator from the recommended level. The economic indicators are still very strong**, the ship utilisation indicator is poor (below 70%)** and the inactive fleet indicator acceptable (9%).

7. VL2440 segment performance (pelagic trawlers between 24 m and 40 m in overall length):

- Biological indicators (2019):
  - ✓ sustainable harvest indicator: 1.72
  - ✓ stocks at risk indicator: 1
- Technical indicators (2019):
  - ✓ vessel utilisation indicator: 60% of kWdays and GTdays
  - ✓ Inactive fleet indicator: no inactive vessels
- Economic indicators (2018):
  - ✓ return on investment (ROI) indicator: 12.5%,
  - ✓ current revenue/break-even revenue (CR/BER) indicator: 2.7%.

As was the case with the previous segment, vessels belonging to segment VL2440TM recorded a sustainable harvest indicator well above 1 during the period in question. In line with the guidelines, despite exceeding the indicator by less than all other segments, **every year the segment relies on overfished stocks which during the years in question are exploited above F_{MSY}.**

The stocks at risk indicator was '1' throughout the period 2017-19.

The economic indicators for the group of vessels analysed were still positive and, importantly, stable. The ROI indicator for 2016-18 was 12.60% in 2016, 11.16% in 2017, and 12.5% in 2018. In other words, it was far higher than the next best alternative. As was the case for the ROI indicator, the CR/BER indicator exceeded the reference value of 1 over the period 2016-17, demonstrating a sound cost-revenue ratio.

During the period in question, the segment comprised between 43 and 44 vessels. Compared to 2018 and 2017, vessel utilisation deteriorated. – the only concerning aspect of the economic situation.

In conclusion, **due to the biological parameters, segment VL2440TM is clearly**

exceeding the SHI indicator and is therefore not sustainable relative to available resources. It is, however, economically stable.

Catch by fleet segment

In 2019, the catch results of the Polish Baltic Sea fishing fleet deteriorated compared to the previous year. This was mainly caused by the ban on targeted cod fishing introduced during the year and the sizeable reduction in herring catch due to a reduction in the TAC. The Baltic fleet caught 146 thousand tonnes in 2019, which represented a 6% decrease on 2018, but was still above 2017 (+6%). The most striking decrease was in the cod and herring catches. As both species play an important role in all Baltic fisheries, the decrease in catch had a negative impact on the economic results of most vessels across the fishing segments. In 2019, virtually all vessel length categories registered a lower catch. The decrease was largest (26%) in segment **VL1012 PG** (fishing with static gear), and slightly smaller (23%) in segment **VL1218 DFN** (fishing mainly with nets). Both segments are characterised by the high share of their catch accounted for by cod (compared to the other segments) – 46% and 40% respectively. The segment comprising vessels of between 18 m and 24 m fishing mainly with pelagic trawls also experienced a two-figure reduction in catch. Unlike the two segments previously referred to, pelagic fish, mainly sprat and herring, account for an overwhelming share of the segment's catch. The reduced catch of segment **VL1824 TM** as compared to the previous year is primarily the result of a significant drop in herring landings (-40%) following a reduction in the herring TAC in 2019, and thus a drop in the individual limits for herring (by as much as 27 % for this segment). The only segment which saw an increase in its catch (by 20%) was the segment comprising vessels up to 10 m in length (**VL0010 PG**). However, this was due to a very low reference base (low catch in 2018). The 2019 catch represented an increase of just 8% compared to 2017, while remaining as much as 18% lower than in 2016. In addition to the species listed in Table 2, freshwater fish, mainly perch, zander, eel and bream, play an important role in the segment's catch. The remaining three vessel segments registered a slight decrease in their catch (2-3%). Paradoxically, bearing in mind the ban on cod fishing introduced in July 2019, larger catches were observed among vessels targeting mainly demersal fish with trawls, i.e. segments **VL1218 DTS** and **VL1824 DTS**. Both segments increased their catch of other species, mainly flounder and whiting, as well as pelagic fish (sprat and herring) in the case of vessels between 12 m and 18 m in length. Despite the aforementioned reduction in quota, this was possible in the case of the latter segment due to fishing capacity held in reserve (underutilisation of limits for those fish in previous years). Segment **VL2440 TM**, which is economically the most significant segment and responsible for over 60% of the total Polish Baltic Sea catch, registered a 3% decrease in landings in 2019, which was impacted by a drop in the herring catch by 1/5. The cod catch also declined. However, cod accounts for a negligible share of the segment's landings (mostly by-catch). The flounder catch, however, rose by a considerable 48% (from 3,000 tonnes to 4,400 tonnes), as did the catch of other fish (by 64%), mainly whiting.

Table 10: Catch volumes by segment for the key fish species for 2017-19

Segment	Species	2017	2018	2019	2019/2018
VL0010 PG	Herring	2,261.7	1,099.6	1,576.9	43%
	Sprat	0.4	0.6	0.3	-39%
	Flounder	939.9	1,108.0	1,130.8	2%
	Cod	501.1	548.7	255.1	-54%
	Other	2,779.0	3,061.5	4,013.5	31%
Total VL0010 PG		**6,482.1**	**5,818.3**	**6,976.7**	**20%**
VL1012 PG	Herring	922.8	678.9	608.9	-10%
	Sprat		10.8		-
	Flounder	1,840.5	2,820.9	2,307.1	-18%
	Cod	1,032.6	1,316.1	555.1	-58%
	Other	216.3	591.3	512.3	-13%
Total VL1012 PG		**4,012.2**	**5,418.0**	**3,983.3**	**-26%**
VL1218 DFN	Herring	137.2	8.3	6.8	-18%
	Sprat	579.5	0.0		-
	Flounder	152.9	90.0	112.6	25%
	Cod	661.7	228.5	147.9	-35%
	Other	113.7	69.3	38.6	-44%
Total VL1218 DFN		**1,644.9**	**396.1**	**305.9**	**-23%**
VL1218 DTS	Herring	1,174.5	1,117.7	1,136.3	2%
	Sprat	1,568.5	1,847.7	1,912.2	3%
	Flounder	4,323.7	5,058.8	5,303.5	5%
	Cod	2,289.7	2,194.7	1,620.9	-26%
	Other	1,098.9	961.5	1,029.3	7%
Total VL1218 DTS		**10,455.3**	**11,180.4**	**11,002.3**	**-2%**
VL1824 DTS	Herring	2,027.4	2,621.3	2,470.2	-6%
	Sprat	3,895.8	4,020.9	3,877.5	-4%
	Flounder	1,814.7	2,772.2	3,146.6	14%
	Cod	1,925.3	1,742.7	1,145.4	-34%
	Other	378.9	593.9	875.3	47%
Total VL1824 DTS		**10,042.1**	**11,751.0**	**11,515.0**	**-2%**
VL1824 TM	Herring	6,493.8	9,744.6	5,806.3	-40%
	Sprat	11,173.9	13,202.5	11,951.3	-9%
	Flounder	694.0	500.3	295.8	-41%
	Cod	735.5	521.7	406.7	-22%
	Other	116.9	139.4	29.9	-79%
Total VL1824 TM		**19,214.1**	**24,108.6**	**18,490.1**	**-23%**
VL2440 TM	Herring	30,654.2	36,134.2	29,065.2	-20%
	Sprat	52,753.7	55,069.1	56,750.8	3%
	Flounder	1,287.9	2,980.1	4,422.2	48%
	Cod	303.3	267.4	197.5	-26%
	Other	724.0	1,983.9	3,253.9	64%
Total VL2440 TM		**85,723.0**	**96,434.6**	**93,689.5**	**-3%**
Grand total		**137,573.7**	**155,107.1**	**145,962.8**	**-6%**

X. Action Plan

The results of the biological, technical and economic indicators relating to the Polish Baltic Sea fleet are presented in Chapter VIII, Section F: 'Estimation and discussion of balance indicators' and Chapter IX: 'Analysis and evaluation of the balance between fishing capacity and fishing opportunities by fleet segment for three consecutive years'. In this regard, it should be noted that individual segments of the Polish Baltic Sea fleet have still failed to balance effectively with the available fishing opportunities. As a result, an action plan was drawn up pursuant to Article 22(4) of Regulation (EU) No 1380/2013.

In order to ensure that the fishing capacity of the fleet is in balance with the available fishing opportunities (resources), and taking into account the need to ensure that fishing activity is carried out in a sustainable and effective manner, appropriate steps must be taken to achieve this balance.

Accordingly, the fleet segments presented below are covered by the programme for **temporary cessation of fishing activity** referred to in Article 33 of Regulation (EU) No 508/2014 to be co-financed under the **'Fisheries and the Sea' Operational Programme (2014-20 FISH OP)** by the European Maritime and Fisheries Fund:

- **VL0010 PG** - vessels up to 10 m in overall length using nets and other passive gear,
- **VL1012 PG** - vessels between 10 m and 12 m in overall length using nets and other passive gear,
- **VL1218 DFN** - vessels between 12 m and 18 m in overall length using nets,
- **VL1218 DTS** - bottom trawlers between 12 m and 18 m in overall length,
- **VL1824 DTS** - bottom trawlers between 18 m and 24 m in overall length,
- **VL1824 TM** - pelagic trawlers between 18 m and 24 m in overall length,
- **VL2440 TM** - pelagic trawlers between 24 m and 40 m in overall length,

As presented in Chapter IX of this report, segment **VL0010 PG** is clearly unsustainable relative to available fishing opportunities and is not economically viable. Furthermore, the results for the vessel utilisation indicator show that capacity utilisation by fishing vessels in the segment is very low. Segment **VL1012 PG** is also clearly unsustainable relative to available fishing opportunities and is not economically viable in the long term. The sustainable harvest indicator shows that the segment relies on overfished stocks (the indicator for 2017-19 was greater than 1). Segment **VL1218 DFN** is unsustainable relative to available fishing opportunities, as demonstrated by its poor biological indicators (the segment became more reliant on overfished stocks – between 2017 and 2019 the sustainable harvest indicator was significantly above 1). Furthermore, the segment's economic indicators were below the reference levels. The fishing capacity of segment **VL1218 DTS** is not resource sustainable relative to available fishing opportunities, as demonstrated by the negative trend in its sustainable harvest and stocks at risk indicators over three consecutive years (the segment relies on overfished stocks which are exploited at a level far exceeding F_{MSY}). The fishing capacity of segment **VL1824 DTS** has proven to be unsustainable relative to available fishing opportunities. The biological indicators for the segment demonstrate a persistent lack of catch

sustainability and a reliance on overfished stocks. Furthermore, the segment's economic indicators are below the desired level. The fishing capacity of segment **VL1824 TM** is markedly unsustainable relative to available fishing opportunities given the deviation of the SHI indicator from the recommended level (the segment relies on overfished stocks which are exploited above Fmsy). Segment **VL2440 TM** is also unsustainable relative to available resources (every year the segment relies on overfished stocks which during the years under review were exploited above F_{MSY} – the sustainable harvest indicators were significantly above 1).

In accordance with Regulation (EU) No 508/2014, aid for temporary cessation of fishing activities will concern Polish fishing vessels which have carried out fishing activities in the Baltic Sea for at least 120 days during the last two calendar years preceding the date of submission of the application for support.

Support will be granted for a maximum duration of six months per vessel during the period 2014-20. If the support is granted for a specified period, all fishing activities carried out by the fishing vessel or fishermen concerned will be effectively suspended.

Fisheries Department
Ministry of the Maritime Economy
and Inland Waterways